

**IN THE CLAIMS:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claims 14-17 and 21-22 have been amended and claims 23-27 have been added as follows:

**Listing of Claims:**

Claim 1 (original): A mixture of at least two amide-based compounds represented by General Formula (1):

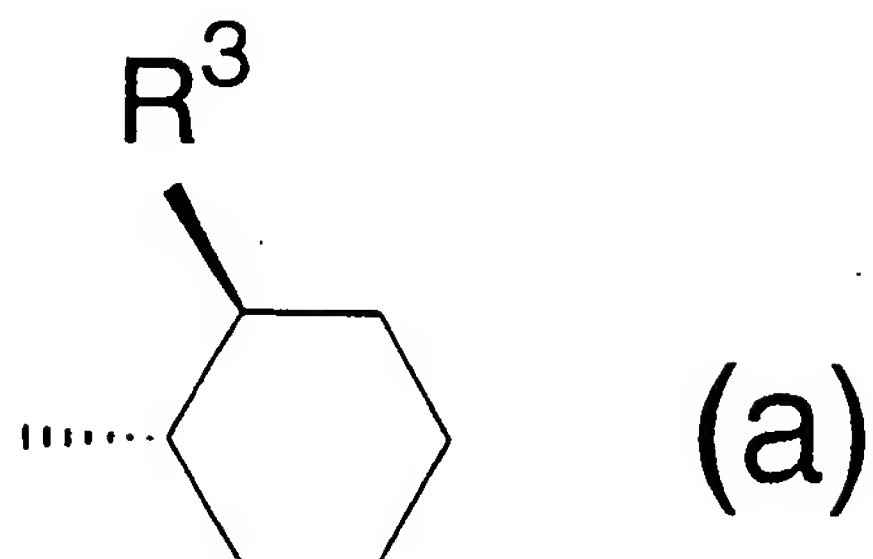


wherein

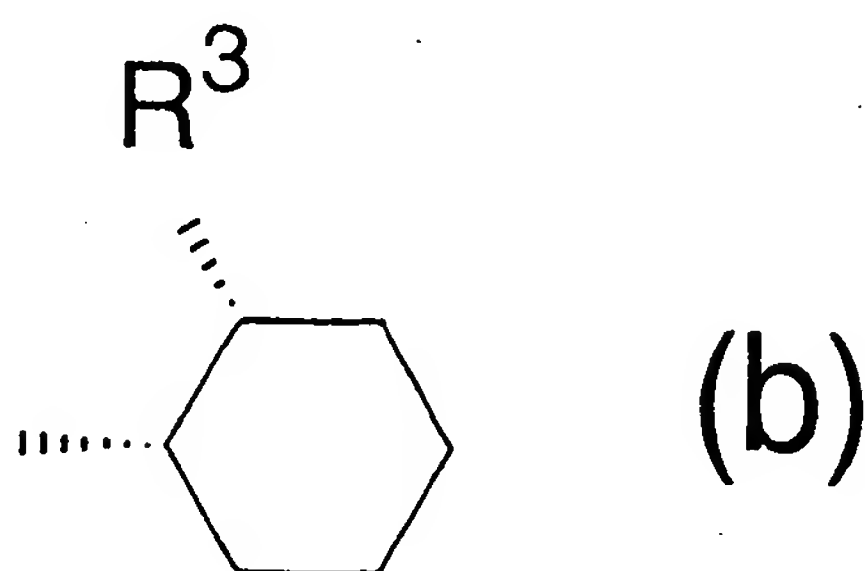
a represents an integer of 2 to 6,

R<sup>1</sup> represents a C<sub>2-30</sub> saturated or unsaturated aliphatic polycarboxylic acid residue, and said aliphatic polycarboxylic acid residue has a valency of 2 to 6, and

the two to six R<sup>2</sup> groups are the same or different, and each represent a trans-2-alkylcyclohexylamine residue represented by General Formula (a):



wherein  $R^3$  represents a  $C_{1-10}$  linear or branched alkyl group, or a cis-2-alkylcyclohexylamine residue represented by General Formula (b):



wherein  $R^3$  represents a  $C_{1-10}$  linear or branched alkyl group,

the trans-2-alkylcyclohexylamine residue represented by General Formula (a) being present in a proportion of at least 70 mole % but less than 100 mole % of the total 2-alkylcyclohexylamine

residues in the mixture.

Claim 2 (original): A mixture according to Claim 1, wherein the trans-2-alkylcyclohexylamine residue represented by General Formula (a) is present in a proportion of at least 71.9 mole % but less than 100 mole % of the total 2-alkylcyclohexylamine residues in the mixture.

Claim 3 (original): A mixture according to Claim 1, wherein R<sup>3</sup> is a C<sub>1-6</sub> linear or branched alkyl group.

Claim 4 (original): A mixture according to Claim 1, wherein R<sup>3</sup> is methyl.

Claim 5 (original): A mixture according to Claim 1, wherein R<sup>1</sup> is a 1,2,3-propanetricarboxylic acid residue or a 1,2,3,4-butanetetracarboxylic acid residue.

Claim 6 (original): A mixture according to Claim 1, wherein R<sup>1</sup> is a 1,2,3-propanetricarboxylic acid residue, and the mixture has a trans 2-alkylcyclohexylamine residue absorbance proportion (C<sub>trans</sub>) of at least 56.3% but less than 72.0% as defined by equation (E):

$$C_{\text{trans}} (\%) = [\text{A}_{\text{trans}} / (\text{A}_{\text{trans}} + \text{A}_{\text{cis}})] \times 100 \quad (\text{E})$$

wherein

A<sub>trans</sub> represents the absorbance, as measured by FT-IR spectroscopy (Fourier Transform

Infrared Spectroscopy), at a wavenumber at which the N-H stretching vibration absorption signal of the trans-2-alkylcyclohexylamine residue represented by General Formula (a) of the corresponding all-trans amide-based compound appears, and

Acis represents the absorbance, as measured by FT-IR spectroscopy (Fourier Transform Infrared Spectroscopy), at a wavenumber at which the N-H stretching vibration absorption signal of the cis-2-alkylcyclohexylamine residue represented by General Formula (b) of the corresponding all-cis amide-based compound appears.

Claim 7 (original): A mixture according to Claim 1, wherein R<sup>1</sup> is a 1,2,3,4-butanetetracarboxylic acid residue, and the mixture has a trans 2-alkylcyclohexylamine residue absorbance proportion (Ctrans) of at least 58.8% but less than 71.5% as defined by equation (E):

$$\text{Ctrans (\%)} = [\text{Atrans}/(\text{Atrans} + \text{Acis})] \times 100 \quad (\text{E})$$

wherein

Atrans represents the absorbance, as measured by FT-IR spectroscopy (Fourier Transform Infrared Spectroscopy), at a wavenumber at which the N-H stretching vibration absorption signal of the trans-2-alkylcyclohexylamine residue represented by General Formula (a) of the corresponding all-trans amide-based compound appears, and

Acis represents the absorbance, as measured by FT-IR spectroscopy (Fourier Transform Infrared Spectroscopy), at a wavenumber at which the N-H stretching vibration absorption signal of the cis-2-alkylcyclohexylamine residue represented by General Formula (b) of the corresponding all-cis amide-based compound appears.

Claim 8 (original): An amide-based compound represented by General Formula (1):

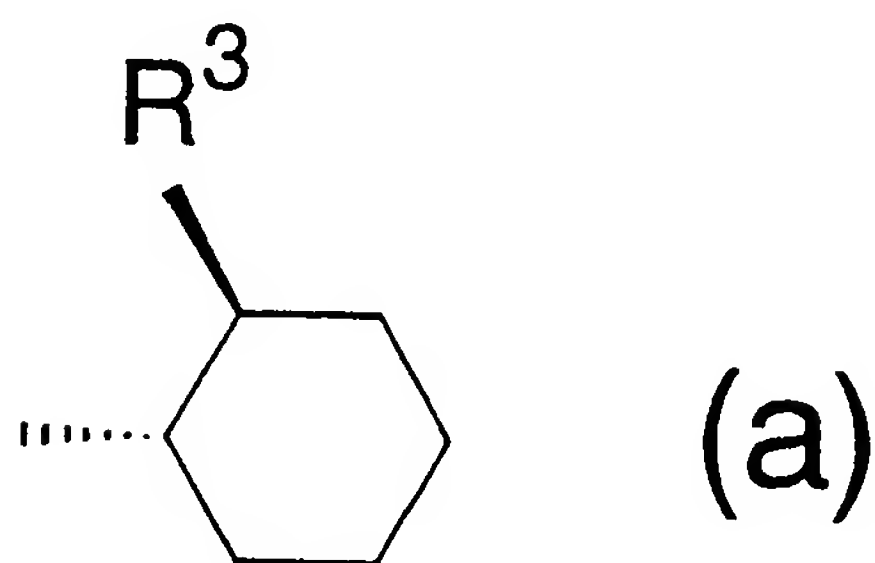


wherein

a represents an integer of 2 to 6,

$R^1$  represents a  $C_{2-30}$  saturated or unsaturated aliphatic polycarboxylic acid residue, and said aliphatic polycarboxylic acid residue has a valence of 2 to 6, and

the two to six  $R^2$  groups are the same, and represent a trans-2-alkylcyclohexylamine residue represented by General Formula (a):



wherein  $R^3$  represents a  $C_{1-10}$  linear or branched alkyl group.

Claim 9 (original): An amide-based compound according to Claim 8, wherein  $R^3$  is a  $C_{1-6}$  linear or branched alkyl group.

Claim 10 (original): An amide-based compound according to Claim 8, wherein  $R^3$  is methyl.

Claim 11 (original): An amide-based compound according to Claim 8, wherein  $R^1$  is a 1,2,3-propanetricarboxylic acid residue or a 1,2,3,4-butanetetracarboxylic acid residue.

Claim 12 (original): An amide-based compound according to Claim 8, wherein  $R^1$  is a 1,2,3,4-butanetetracarboxylic acid residue and  $R^3$  is methyl.

Claim 13 (original): An amide-based compound according to Claim 8, wherein  $R^1$  is a 1,2,3-propanetricarboxylic acid residue and  $R^3$  is methyl.

Claim 14 (currently amended): A polyolefin resin nucleating agent comprising the mixture according to ~~any one of Claims 1 to 7~~ Claim 1.

Claim 15 (currently amended): A polyolefin resin nucleating agent comprising the amide-based compound according to ~~any one of Claims 8 to 13~~ Claim 8.

Claim 16 (currently amended): A polyolefin resin composition comprising a polyolefin resin and a mixture according to ~~any one of Claims 1 to 7 or an amide-based compound according to any one of Claims 8 to 13~~ Claim 1.

Claim 17 (currently amended): A polyolefin resin composition according to Claim 16, wherein the composition contains 0.01 to 10 parts by weight of the mixture ~~according to any one of Claims 1 to 7 or the amide-based compound according to any one of Claims 8 to 13, per 100 parts by weight of the polyolefin resin.~~

Claim 18 (original): A polyolefin resin molded product obtainable by molding a polyolefin resin composition according to Claim 16.

Claim 19 (original): A process for producing a mixture of amide-based compounds represented by General Formula (1):

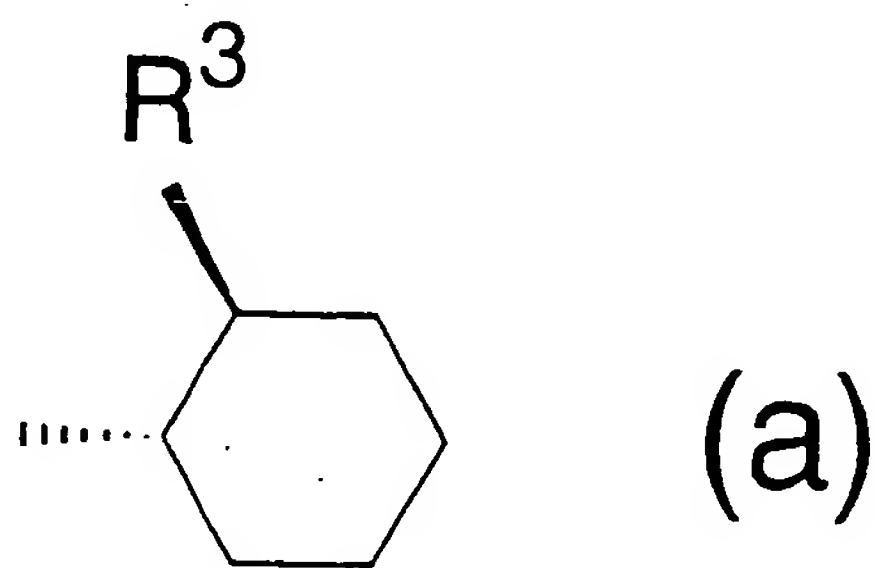


wherein

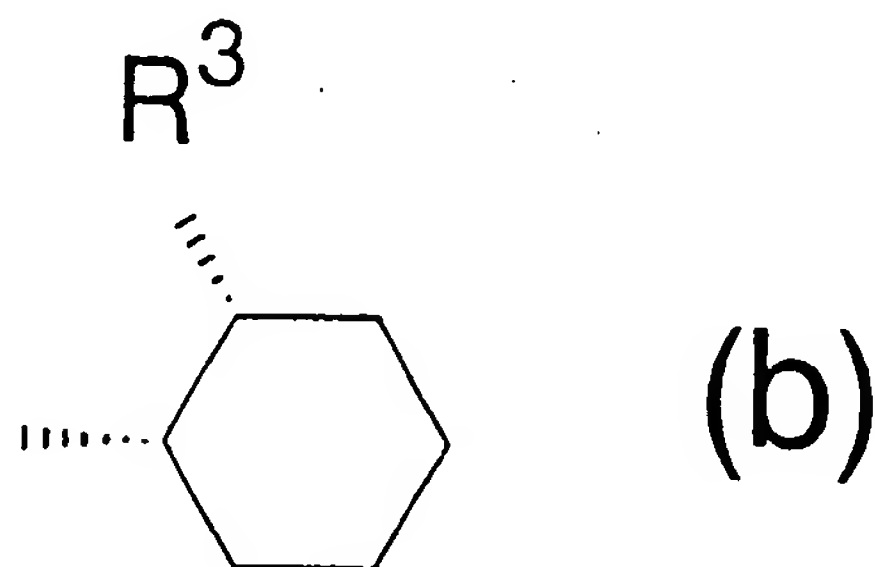
a represents an integer of 2 to 6,

$R^1$  represents a  $C_{2-30}$  saturated or unsaturated aliphatic polycarboxylic acid residue, and said aliphatic polycarboxylic acid residue has a valency of 2 to 6, and

the two to six  $R^2$  groups are the same or different, and each represent a trans-2-alkylcyclohexylamine residue represented by General Formula (a):



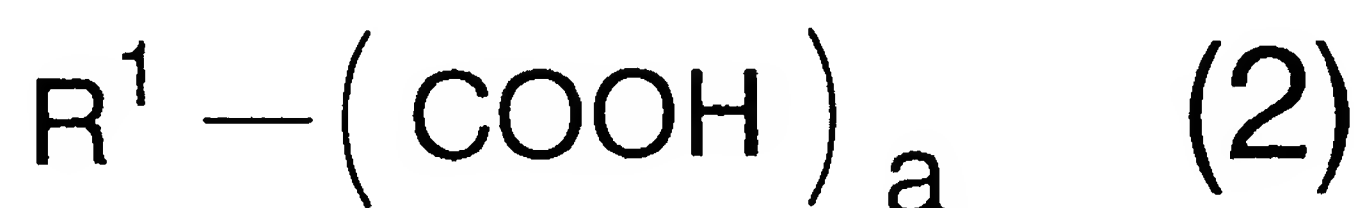
wherein  $R^3$  represents a  $C_{1-10}$  linear or branched alkyl group, or a cis-2-alkylcyclohexylamine residue represented by General Formula (b):



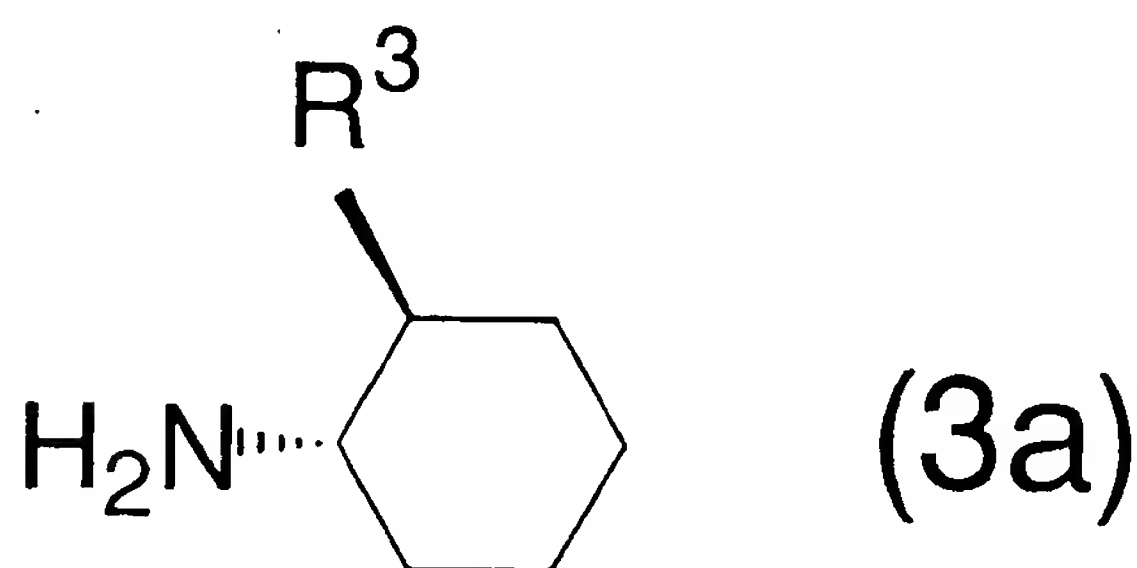


wherein  $R^3$  represents a  $C_{1-10}$  linear or branched alkyl group, the trans-2-alkylcyclohexylamine residue represented by General Formula (a) being present in a proportion of at least 70 mole % but less than 100 mole % of the total 2-alkylcyclohexylamine residues in the mixture,

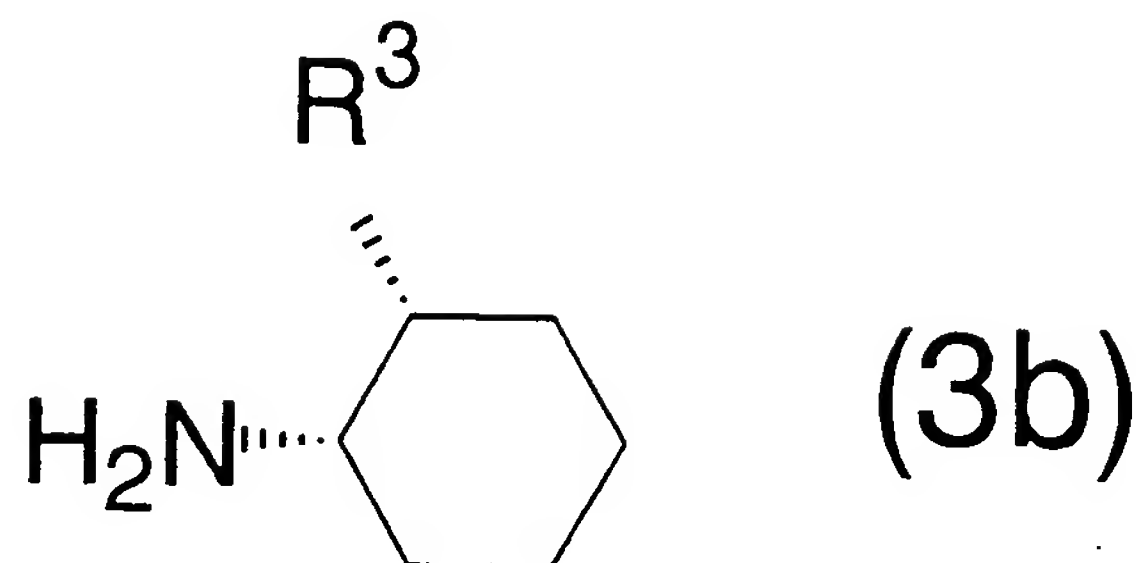
the process comprising subjecting, to amidation reaction, a polycarboxylic acid represented by General Formula (2):



wherein  $R^1$  represents a  $C_{2-30}$  saturated or unsaturated aliphatic polycarboxylic acid residue, and  $a$  represents an integer of 2 to 6 or a reactive derivative thereof, and an amine mixture of (i) a trans-2-alkylcyclohexylamine represented by General Formula (3a):



wherein  $R^3$  represents a  $C_{1-10}$  linear or branched alkyl group, and (ii) a cis-2-alkylcyclohexylamine represented by General Formula (3b)



wherein  $R^3$  represents a  $C_{1-10}$  linear or branched alkyl group, the content of the trans-2-alkylcyclohexylamine in the amine mixture being at least 70% but less than 100% as determined by gas chromatography (GLC).

Claim 20 (original): A process for producing an amide-based compound represented by

General Formula (1):

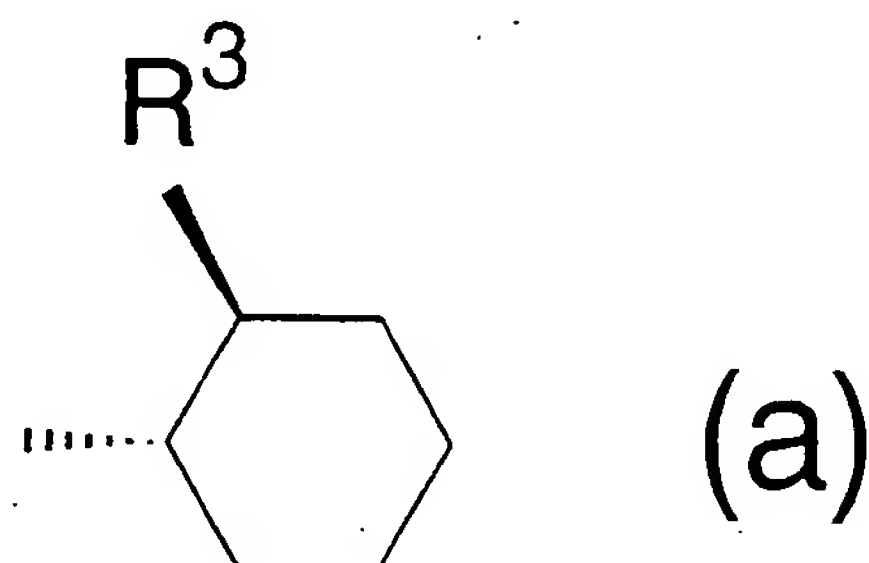


wherein

$a$  represents an integer of 2 to 6,

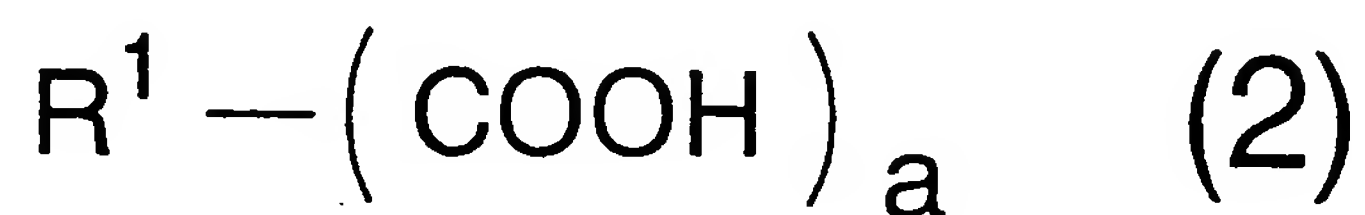
$R^1$  represents a  $C_{2-30}$  saturated or unsaturated aliphatic polycarboxylic acid residue, and said aliphatic polycarboxylic acid residue has a valency of 2 to 6, and

the two to six  $R^2$  groups are the same and represent a trans-2-alkylcyclohexylamine residue represented by General Formula (a):

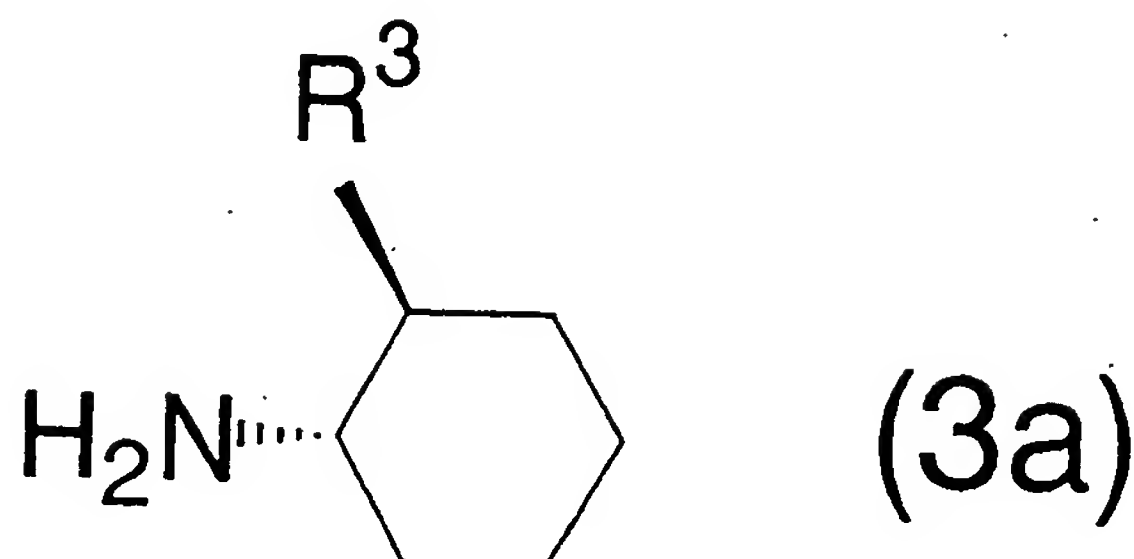


wherein  $R^3$  represents a  $C_{1-10}$  linear or branched alkyl group,

the process comprising subjecting, to amidation reaction, a polycarboxylic acid represented by General Formula (2):



wherein  $R^1$  represents a  $C_{2-30}$  saturated or unsaturated aliphatic polycarboxylic acid residue, and  $a$  represents an integer of 2 to 6 or a reactive derivative thereof, and a trans-2-alkylcyclohexylamine represented by General Formula (3a):



wherein R<sup>3</sup> represents a C<sub>1-10</sub> linear or branched alkyl group.

Claim 21 (currently amended): A method for improving rigidity of a polyolefin resin molded product, the method comprising incorporating a mixture according to ~~any one of Claims 1 to 7 or an amide-based compound according to any one of Claims 8 to 13 into a polyolefin resin to obtain a polyolefin resin composition, and molding the polyolefin resin composition~~ Claim 1.

Claim 22 (currently amended): Use of a mixture according to ~~any one of Claims 1 to 7 or an amide-based compound according to any one of Claims 8 to 13 for improving rigidity of a polyolefin resin molded product~~ Claim 1 for improving rigidity of a polyolefin resin molded product.

Claim 23 (new): Use of an amide-based compound according to claim 8 for improving rigidity of a polyolefin resin molded product.

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Claim 24 (new): A method for improving rigidity of a polyolefin resin molded product, the method comprising incorporating an amide-based compound accord to Claim 8 into a polyolefin resin to obtain a polyolefin resin composition, and molding the polyolefin resin composition.

Claim 25 (new): A polyolefin resin composition comprising a polyolefin resin and an amide-based compound according to Claim 8.

Claim 26 (new): A polyolefin resin composition according to Claim 16, wherein the composition contains 0.01 to 10 parts by weight of the amide-based compound.

Claim 27 (new): A polyolefin resin molded product obtainable by molding a polyolefin resin composition according to Claim 25.